# Grass Trimmer/Brush Cutter

*Operator's Manual*

**MODEL SRM - 230U**

**WARNING DANGER**

The muffler or catalytic muffler and surrounding cover may become extremely hot.
Always keep clear of exhaust and muffler area, otherwise serious personal injury may occur.

**WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**WARNING DANGER**

Read rules for safe operation and instructions carefully. ECHO provides an Operator's Manual and a Safety Manual. Both must be read and understood for proper and safe operation.

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01/07

## INTRODUCTION

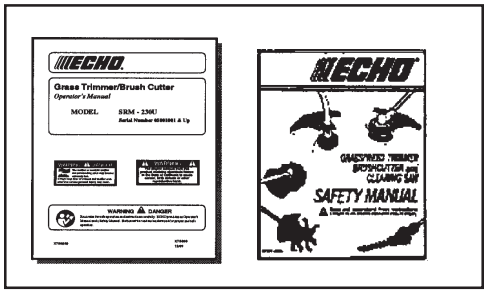
Welcome to the ECHO family. This ECHO product was designed and manufactured to provide long life and on-the-job dependability. Read and understand this manual and the SAFETY MANUAL you found in the same package. You will find both easy to use and full of helpful operating tips and SAFETY messages.

### THE OPERATOR'S MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product.

### THE SAFETY MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. Explains possible hazards involved with the use of Grass Trimmers and Brush Cutters and what measures you should take to make their use safer.

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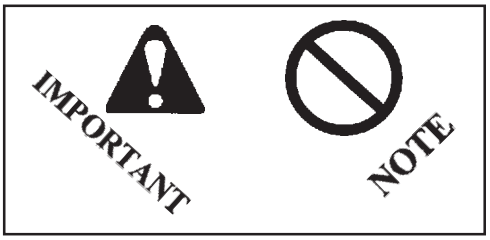
# SAFETY

## MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

Throughout this manual and on the product itself, you will find safety alerts and helpful, information messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.



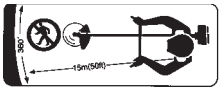

This symbol accompanied by the words **WARNING** and **DANGER** calls attention to an act or condition that can lead to serious personal injury to operator and bystanders.

The circle with the slash symbol means whatever is shown within the circle is prohibited.

**IMPORTANT** The enclosed message provides information necessary for the protection of the unit.

**NOTE** This enclosed message provides tips for use, care and maintenance of the unit.

## INTERNATIONAL SYMBOLS

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|---|
| | "WARNING, SEE OPERATOR'S MANUAL | | Hot Surface |
| | Wear eye, ear and head protection | | Finger Severing |
| | Wear hand and foot protection | | DO NOT allow flames or sparks near fuel. |
| | Safety/Alert | | DO NOT smoke near fuel. |
|  | Keep bystanders and helpers away 15 m (50 ft.). | | |

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|---|
| | Emergency Stop | | Fuel and oil mixture |
| H | Carburetor Adjustment - High speed mixture | | Primer Bulb |
| T | Carburetor Adjustment - Idle speed | | Choke Control "Run" Position (Choke Open) |
| L | Carburetor Adjustment - Low speed mixture | | Choke Control "Cold Start" Position (Choke Closed) |
| Ignition ON I OFF O | Ignition ON/ OFF | | Do not use blades. String line only |

## PERSONAL CONDITION AND SAFETY EQUIPMENT

**WARNING DANGER**

Users of this product risk injury to themselves and others if the unit is used improperly and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating unit.

### *Physical Condition*

Your judgment and physical dexterity may not be good:
- if you are tired or sick,
- if you are taking medication,
- if you have taken alcohol or drugs.

Operate unit only if you are physically and mentally well.

### *Eye Protection*

Wear eye protection that meets ANSI Z87.1 or CE requirements whenever you operate the unit.

### *Hand Protection*

Wear no-slip, heavy-duty work gloves to improve your grip on the handle. Gloves also reduce the transmission of machine vibration to your hands.

### *Hearing Protection*

ECHO recommends wearing hearing protection whenever unit is used.

### *Proper Clothing*

Wear snug fitting, durable clothing;
- Pants should have long legs, shirts with long sleeves.
- DO NOT WEAR SHORTS,
- DO NOT WEAR TIES, SCARFS, JEWELRY.

Wear protective hair covering to contain long hair.
Wear sturdy work shoes with nonskid soles;
- DO NOT WEAR OPEN TOED SHOES,
- DO NOT OPERATE UNIT BAREFOOTED.

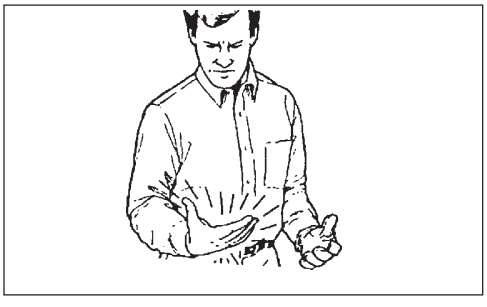
### *Hot Humid Weather*

Heavy protective clothing can increase operator fatigue which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.

### *Extended Operation/Extreme Conditions*

It is believed that a condition called Raynaud's Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

- Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
- If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.

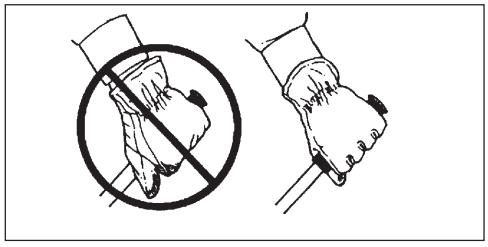


### *Repetitive Stress Injuries*

It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:

- Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercise to strengthen the hand and arm muscles.
- Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.



**WARNING DANGER**

Do not operate this product indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

### *Read the Manuals*

- Provide all users of this equipment with the Operator's Manual and Safety Manual for instructions on Safe Operation.

### *Clear the Work Area*

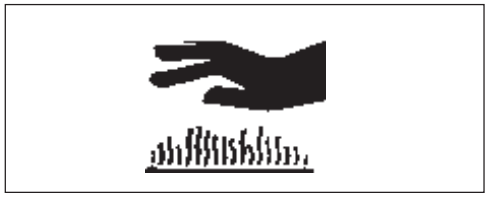
- Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 m (50 ft.) while the unit is in use.

### *Keep a Firm Grip*

- Hold the front and rear handles with both hands, with thumbs and fingers encircling the handles.

### *Keep a Solid Stance*

- Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.



### *Avoid Hot Surfaces*

- Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.

## EQUIPMENT CHECK

**WARNING DANGER**

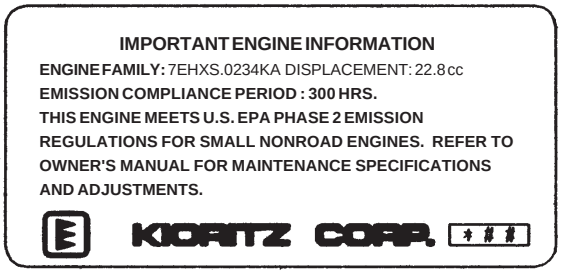
Use only ECHO approved attachments. Serious injury may result from the use of a non-approved attachment combination. ECHO, INC. will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO. Read and comply with all safety instructions listed in this manual and safety manual.

- Check unit for loose/missing nuts, bolts, and screws. Tighten and/or replace as needed.
- Inspect fuel lines, tank, and area around carburetor for fuel leaks. DO NOT operate unit if leaks are found.
- Inspect shield for damage and ensure that the cut-off knife is securely in place. Replace if either is damaged or missing.
- Check that the cutting attachment is firmly attached and in safe operating condition.
- Check that front loop handle and shoulder strap/ or shoulder/waist harness are adjusted for safe, comfortable operation. See Assembly Section for proper adjustment.

# EMISSION CONTROL

***EPA Phase 2***

The emission control system for the engine is EM/TWC (Engine Modification and 3-way Catalyst) and for the fuel tank the Control System is EVAP (Evaporative Emissions). Evaporative emission may be applicable to California models only.


IMPORTANT ENGINE INFORMATION
ENGINE FAMILY: 7EHXS.0234KA DISPLACEMENT: 22.8 cc
EMISSION COMPLIANCE PERIOD : 300 HRS.
THIS ENGINE MEETS U.S. EPA PHASE 2 EMISSION
REGULATIONS FOR SMALL NONROAD ENGINES. REFER TO
OWNER'S MANUAL FOR MAINTENANCE SPECIFICATIONS
AND ADJUSTMENTS.
KIORITZ CORP.

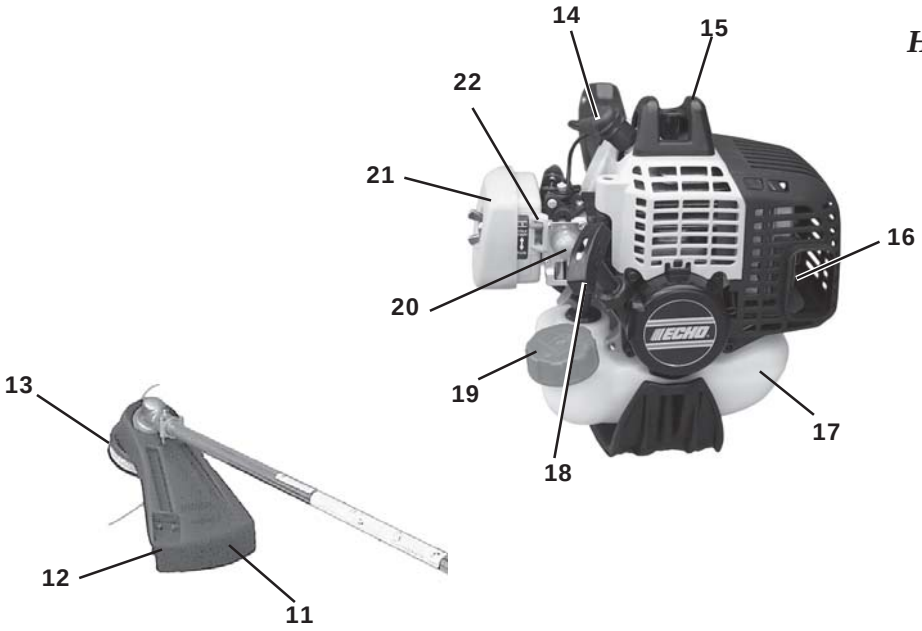
**An Emission Control Label** is located on the engine. (This is an EXAMPLE ONLY, information on label varies by engine FAMILY).

**PRODUCT EMISSION DURABILITY**

The 300 hour emission durability compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

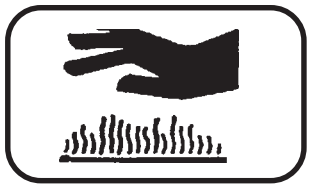
## DESCRIPTION

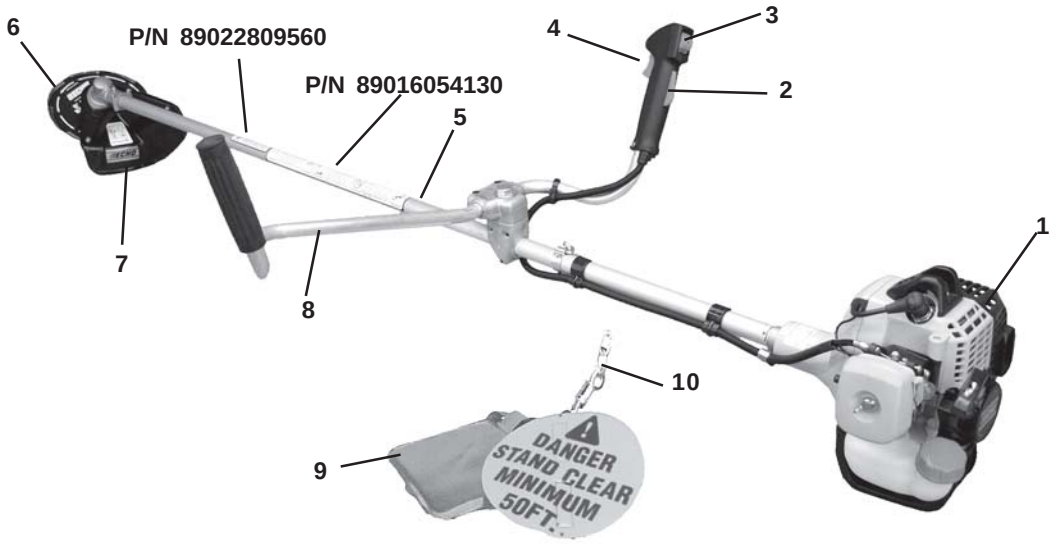
Locate these safety decals on your unit. Make sure the decals are legible and that you understand and follow the instructions on them. If a decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.




***Hot Decal (near muffler)***

**P/N 89016006361**

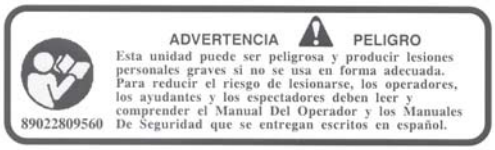


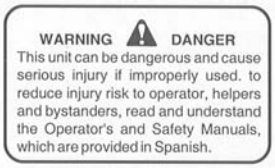



***Shaft Decal***

***Spanish Decal***

**P/N 89022809560**


ADVERTENCIA
PELIGRO
Esta unidad puede ser peligrosa y producir lesiones personales graves si no se usa en forma adecuada. Para reducir el riesgo de lesionarse, los operadores, los ayudantes y los espectadores deben leer y comprender el Manual Del Operador y los Manuales De Seguridad que se entregan escritos en español.
89022809560


WARNING
DANGER
This unit can be dangerous and cause serious injury if improperly used. to reduce injury risk to operator, helpers and bystanders, read and understand the Operator's and Safety Manuals, which are provided in Spanish.

**P/N 89016054130**

***Metal Debris Shield Decal***

**P/N 89016841031**

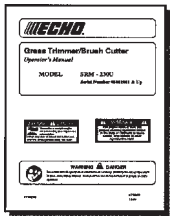
1. **POWER HEAD** - Includes the Engine, Clutch, Fuel System, Ignition System and Recoil Starter.
2. **THROTTLE TRIGGER LOCKOUT** - This lever must be held during starting. Operation of the throttle trigger is prevented unless throttle trigger lockout lever is engaged.
3. **STOP SWITCH** - "SLIDE SWITCH" mounted on top of the Throttle Trigger Housing. Move switch FORWARD to RUN, BACK to STOP.
4. **THROTTLE TRIGGER** - Controls engine speed. Spring loaded to return to idle when released. During acceleration, press trigger gradually for best operating technique.
5. **DRIVE SHAFT ASSEMBLY** - Includes the Rear (right hand) Handle assembly, Gear Housing assembly, Front (loop, left hand) Handle assembly, steel drive shaft and Safety Decal.
6. **BLADE** - Circular blade for grass, weed or brush cutting applications. Harness, metal shield & U-handles required for blade operation.
7. **METAL BLADE SHIELD** - Required when unit is equipped with blades. Do not operate unit without shield.
8. **U-HANDLE** - Required for metal blade operation.
9. **HIP PAD** - Used to protect hip/leg and clothing when using U-handle equipped unit.
10. **SHOULDER HARNESS**- An adjustable strap that suspends the unit from the operator. Using the strap reduces operator fatigue and restricts rearward movement of unit.
11. **PLASTIC DEBRIS SHIELD ASSEMBLY** - Included in plastic bag (co-pack). **MUST** be installed on unit before use, see Assembly Instructions. Shield assembly includes the Cut-Off Knife. Mounts on the Gear Housing Assembly just above the cutting attachment. Helps protect the operator by deflecting debris produced during the trimming operation. This shield must be replaced with the steel shield for blade use.
12. **CUT-OFF KNIFE** - Automatically trims line to the correct length: 5" after head is tapped on the ground. If trimmer is operated without a cut-off knife, the line will become too long, the engine will overheat, and engine damage may occur.
13. **NYLON CUTTER HEAD** - Contains replaceable nylon trimming line that advances when the trimmer head is tapped against the ground while the head is turning at normal operating speed.
14. **SPARK PLUG** - Provides spark to ignite fuel mixture.
15. **ARM REST** - Provides arm rest during operation and protects arm from the hot engine.
16. **SPARK ARRESTOR - CATALYTIC MUFFLER / MUFFLER** - The muffler or catalytic muffler controls exhaust noise and emission. The spark arrestor screen prevents hot, glowing particles of carbon from leaving the muffler. Keep exhaust area clear of flammable debris.
17. **FUEL TANK** - Contains fuel and fuel filter.
18. **RECOIL STARTER HANDLE** - Pull handle slowly until starter engages, then quickly and firmly. When engine starts, return handle slowly. DO NOT let handle snap back or damage to unit will occur.
19. **FUEL TANK CAP** - Covers and seals fuel tank opening.
20. **PURGE BULB** - Pumping purge bulb before starting engine draws fresh fuel from the fuel tank, purging air from the carburetor. Pump purge bulb until fuel is visible and flows freely in the clear fuel tank return line. Pump purge bulb an additional 4 or 5 times.
21. **AIR CLEANER** - Contains replaceable filter element.
22. **CHOKE** - The choke control is located at the rear of the air cleaner housing. Move choke lever to Cold Start ( ) to close choke for cold start. Move choke lever to "Run" () position to open choke.

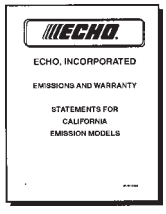
## CONTENTS

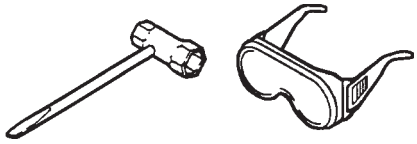
The ECHO product you purchased has been factory pre-assembled for your convenience. Due to packaging restrictions, shield installation and other assembly may be necessary.

After opening the carton, check for damage. Immediately notify your retailer or ECHO Dealer of damaged or missing parts. Use the contents list to check for missing parts.

__ 1- Power Head / Drive Shaft Assembly
__ 1- Plastic Bag (co-pack)
__ - 1, Operator's Manual
__ - 1, Safety Manual
__ - 1, Warranty Registration Card
__ - 1, Limited Warranty Statement
__ - 1, Plastic shield
__ - 1, wrench 17x19
__ - 1, locking tool
__ - 1, Nylon Trimmer Head
__ - 1, Safety Glasses
__ - 1, Echo Power Blend ™ 2-stroke oil sample
__ - 1, shield plate
__ - 3, 5mm x 16mm screws (shield mtg.)
__ - 1, 4mm Hexagon Wrench
__ - 1, 8mm x 55mm bolt
__ - 1, flat washer
__ - 2, cable clips
__ - 3, 5mm x 15mm screws (shield mount)
__ - 2, 5mm x 8mm screws (bracket to shield)
__ - 4, 5mm nuts
__ - 4, 5mm lockwashers
__ - 1, metal shield
__ - 1, bracket
__ - 1, Shoulder Harness w/hip pad







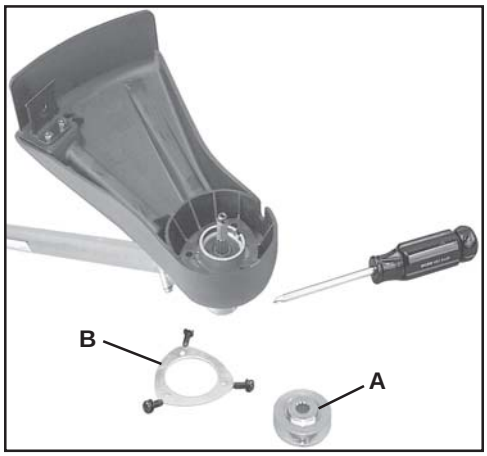
# ASSEMBLY

## PLASTIC SHIELD INSTALLATION

***(For Nylon Line Operation)***

*Tools Required:* Screwdriver.

*Parts Required:* Plastic Shield, Shield Plate, three (3) 5mm x 16mm screws.




**NOTE**
The plastic shield is for use with the Nylon Line Head only. Install Metal Shield when using plastic or metal blades.

1. Remove plastic sleeve and upper plate (A) from PTO shaft.
2. Install the shield on the bottom of the bearing housing flange.
3. Place shield plate (B) on shield, align holes and install three (3) 5x16 mm screws.
4. Install upper plate (A).

## NYLON LINE HEAD INSTALLATION

***(Use with Plastic Shield)***

*Tools Required:* Head Locking Tool.

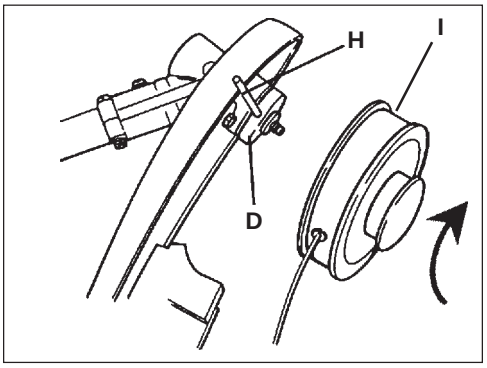
*Parts Required:* Nylon Line Head.

1. Be sure upper adapter plate remains on PTO shaft.
2. Align locking hole in upper plate with notch in edge of gear housing and insert head locking tool (C).
3. Thread line head onto shaft by turning it counter clockwise until head is tight against upper plate.
4. Remove locking tool.

## TO ADVANCE TRIMMER LINE

**Tip:**
To advance trimmer line, tap trimmer head against the ground while the head is turning at normal operating speed.

## REMOVE NYLON HEAD



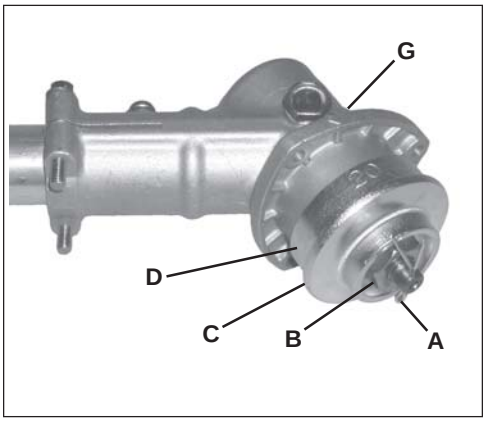

1. Align locking hole in upper plate (D) with notch in edge of gear housing and insert head locking tool.
2. Remove line head (I) by turning it clockwise until head is completely off of shaft.
3. Remove locking tool (H).

## BLADE INSTALLATION

**WARNING DANGER**

You must install the U-Handle and all Blade Conversion parts shown in the following instructions before operating this unit with a metal blade, otherwise serious injury may result.

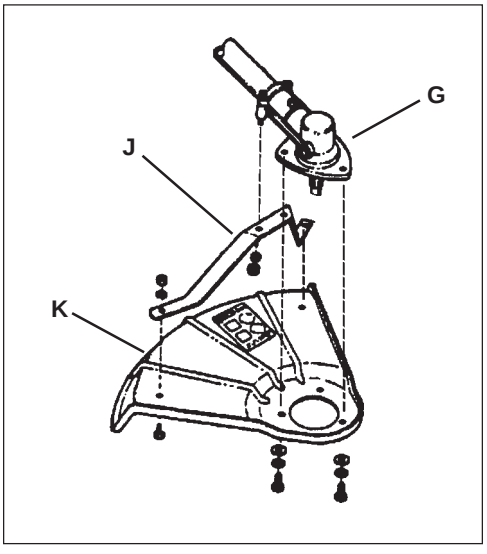
**NOTE**
Model SRM-230U includes U-Handle, and necessary blade conversion parts. Blades are not provided with trimmer/brushcutters and must be selected for type of cutting being performed. See page 15, "Blade Selection."




### *Install Metal Shield*

*Tools Required:* 8 x 10 mm Open-end Wrench, Screwdriver, Scrench, Locking Tool

*Parts Required:* Metal Shield, Shield Bracket,
3 - 5 x 15 mm screws w/captivated flat and lockwasher, (metal shield to gear housing).
2 - 5 x 8 mm screws, 2 - 5 mm nuts, 2 - 5 mm lockwashers, (bracket to shield).
2 - 5 mm nuts, 2 - 5 mm lockwashers
(bracket to gear housing)



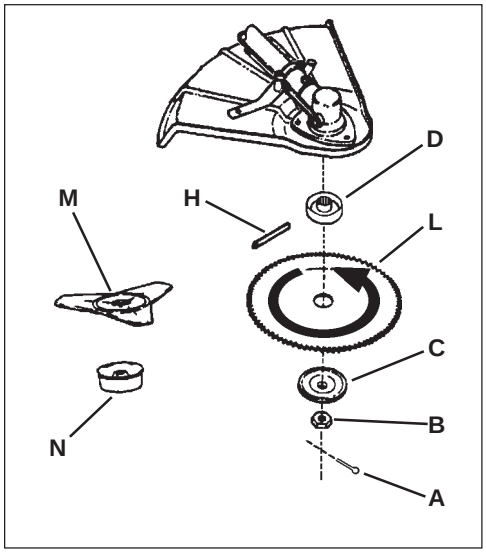

1. If installed, remove nylon line head, upper plate and plastic shield, and set upper plate aside for use with blade installation. Retain plastic shield, shield plate, and plastic shield hardware for conversion back to nylon line operation.
2. Align hole in upper plate (D) with notch in gear housing (G), and insert locking tool to prevent splined shaft from turning. Arrow on gear housing flange points to notch location.
3. Remove split pin (A), L.H. blade nut (B), lower plate (C), and upper plate (D) from PTO shaft. Turn blade nut clockwise to remove.
4. Remove locking tool.
5. Loosely attach bracket (J) to shield (K) and attach shield to bottom of gear housing (G) with hardware provided.
6. Tighten all shield hardware.

## *Install Blade*

*Tools Required:* Locking Tool, T-Wrench.

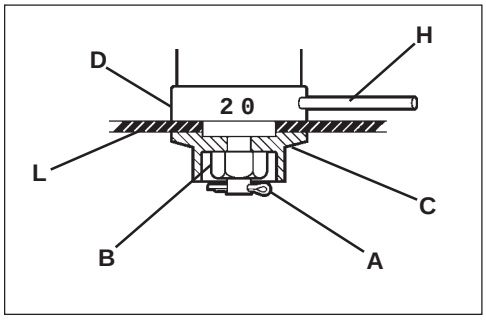
*Parts Required:* Upper Plate w/ 20 mm pilot, Lower Plate, 10 mm Nut w/ L.H. threads, 2 x 25 mm Cotter Pin, Blade.

1. Install upper plate (D) on splined PTO shaft, pilot side down. Blade installation requires Upper Plate (D) with 20 mm pilot.
2. Install Blade (L) on upper plate pilot. Blades must be installed so that rotation arrow on blade matches rotation of unit: teeth toward direction of rotation (See debris shield decal). Secure blade with Lower Plate (C), and 10 mm L.H. nut (B). Turn nut counter-clockwise on PTO shaft to tighten.
3. Align hole in upper plate with notch in gear housing, and insert Locking Tool (H) to prevent splined shaft from turning. Arrow on gear housing points to notch. Tighten 10 mm nut securely.
4. Insert Split Pin (A) in hole in PTO shaft, and bend pin legs around shaft counterclockwise to retain 10 mm nut.




**IMPORTANT**
Never reuse a cotter pin - install a new cotter pin each time a blade is installed or replaced.

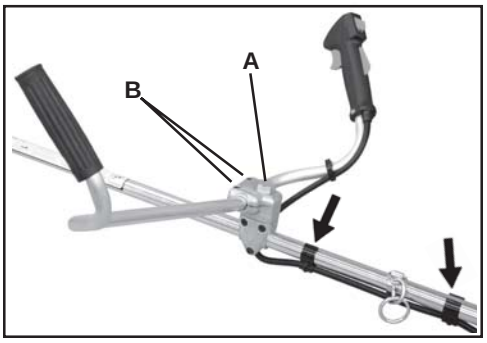
5. Tri-Cut Blade (M) is installed with Glide Cup (N).
6. Remove locking tool.



## U-HANDLE INSTALLATION

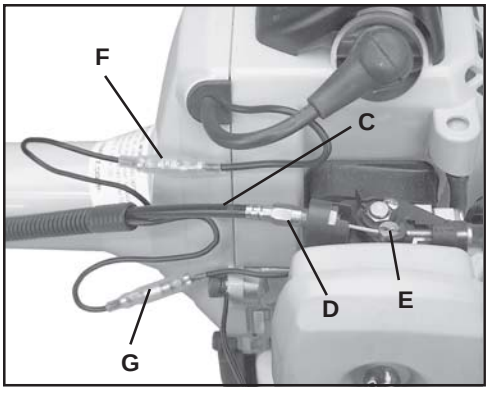
*Tools Required*: 19 mm wrench, 4 mm hex wrench, Pliers

*Parts Required:* U-Handle, Clamp w/screws, 8 mm x 55 mm hex bolt, 8 mm flat washer

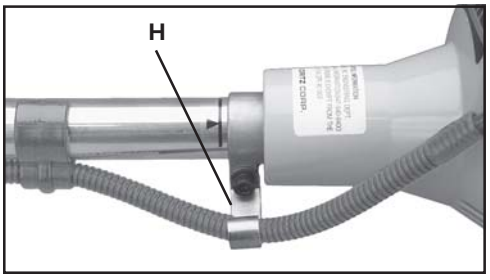



1. Install upper U-Handle and bracket on lower bracket with one (1) 8mm x 55mm bolt (A) and (1) large circular washer. Do not tighten bolt securely until final adjustments are completed.
2. Loosen upper (2) U-handle clamp screws (B), and position U-handle as shown.
3. Lightly tighten 8mm bolt (A) and clamp screws (B) to hold U-handle in position until final adjustments are completed.
4. Route throttle linkage and ignition lead assembly along shaft and clip as shown.

## THROTTLE LINKAGE AND IGNITION LEADS

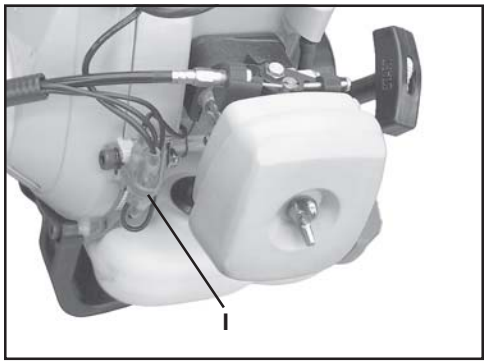



1. Place throttle linkage (C) through adjustment fixture (D) and install wire end into large carburetor throttle swivel hole (E). Check throttle for freedom of movement and that wide open throttle / low idle extremes are adjusted properly. The throttle linkage must be adjusted by moving the adjustment fixture (D). Consult with your Echo Dealer for correct adjustment procedure.
2. Connect ignition leads (F) and (G).



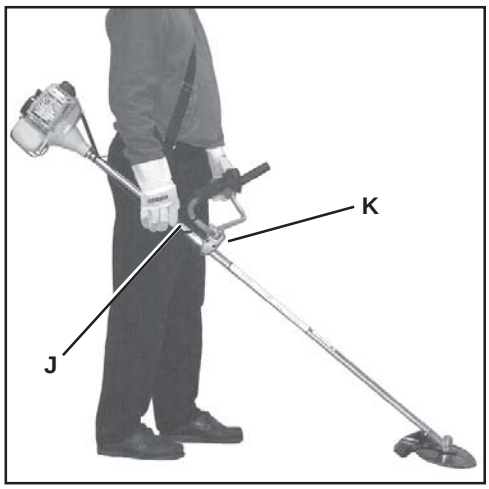

3. Install throttle linkage into bracket clamp (H) and pinch snug with pliers. Bend bracket up and flush against drive shaft.

4. Bundle and secure ignition leads against engine housing with clip (I).




## BALANCE AND ADJUST UNIT

1. Loosen harness clamp screw.
2. Put on harness and attach unit to harness.
3. Slide harness clamp (J) up or down until unit balances with head approximately 50-75 mm (2 -3 in.) from the ground.
4. Tighten harness clamp screw.
5. Loosen upper U-Handle clamp screws (K), and position U-Handle for comfortable operation.
6. Tighten U-Handle clamp screws and 8 mm clamp bolt securely.



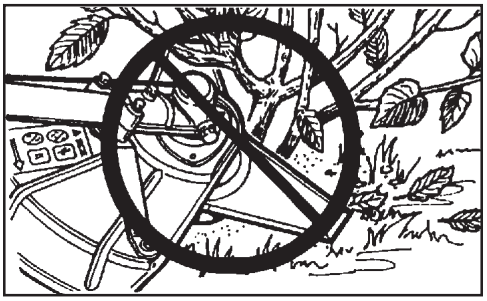

# OPERATION

## OPERATION WITH BLADES

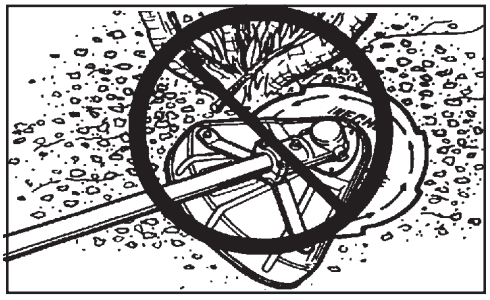
**WARNING** **DANGER**

The type of Blade used **MUST** be matched to the type and size of material cut. An improper or dull blade can cause serious personal injury. Blades **MUST** be sharp. Dull blades increase the chance of kick-out and injury to yourself and bystanders.

**Plastic/Nylon Grass/Weed Blades** may be used where ever the nylon line head is used. DO NOT use this blade for heavy weeds or brush!



**8 Tooth Weed/Grass Blade** (P/N 69600120331) is designed for grass, garden debris and thick weeds. DO NOT use this blade for brush or heavy woody growth, 19 mm (3/4 in.) diameter or larger.



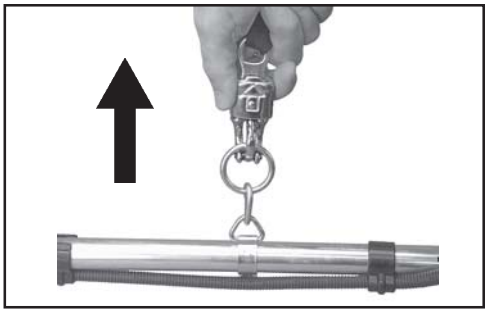
**80 Tooth Brush Blade** (P/N 69500120331) is designed for cutting brush and woody growth up to 64 mm (2-1/2 in.) diameter.

**22 Tooth Clearing Blade** (99944200130) is designed for dense thickets and saplings up to 64 mm (2-1/2 in.) diameter.

**Use Shoulder/Waist Harness** (P/N 99944200200) Use of the Shoulder/ Waist Harness is recommended for **ALL** Trimmer/Brush Cutter use, not just Blade operation. The Shoulder/Waist Harness when used in a trimming operation with nylon line head suspends the trimmer from the operator's shoulder and reduces operator fatigue.

During blade operation, the same fatigue reduction is achieved. Safety to the operator is also enhanced by reducing the possibility of blade contact with the operator's hands and feet by restricting trimmer movement.

**NOTE**
In case of Emergency, pull up on the Quick Release Collar to disconnect the trimmer from the harness.



## FUEL

**NOTICE:** Use of unmixed, improperly mixed, or fuel older than 90 days, (stale fuel), may cause hard starting, poor performance, or severe engine damage and void the product warranty. Read and follow instructions in the Storage section of this manual.

**WARNING**

Alternative fuels, such as E-20 (20% ethanol), E-85 (85% ethanol) or any fuels not meeting above requirements are **NOT** approved for use in ECHO 2-stroke gasoline engines. Use of alternative fuels may cause performance problems, loss of power, overheating, fuel vapor lock, and unintended machine operation, including, but not limited to, improper clutch engagement. Alternative fuels may also cause premature deterioration of fuel lines, gaskets, carburetors and other engine components.

### *Fuel Requirements*

**Gasoline -** Use 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 10% Ethanol (grain alcohol) or 15% MTBE (methyl tertiary-butyl ether). Gasoline containing methanol (wood alcohol) is **NOT** approved.

**Two Stroke Oil -** A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. FC Standards must be used. Echo brand premium Power Blend ™ Universal 2-Stroke Oil meets these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD and J.A.S.O. FC certified oil, such as Echo premium Power Blend ™, will void the two-stroke engine warranty. (Emission related parts only are covered for two years, regardless of two-stroke oil used, per the statement listed in the Emission Defect Warranty Explanation.)

**IMPORTANT**
Echo premium Power Blend ™ Universal 2-Stroke Oil may be mixed at 50:1 ratio for application in all Echo engines sold in the past regardless of ratio specified in those manuals.

### *Handling Fuel*

**WARNING DANGER**

Fuel is VERY flammable. Use extreme care when mixing, storing or handling or serious personal injury may result.

- Use an approved fuel container.
- DO NOT smoke near fuel.
- DO NOT allow flames or sparks near fuel.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- NEVER refuel a unit when the engine is HOT or RUNNING!
- DO NOT fill fuel tanks indoors. ALWAYS fill fuel tanks outdoors over bare ground.
- DO NOT overfill fuel tank. Wipe up spills immediately.
- Securely tighten fuel tank cap and close fuel container after refueling.
- Inspect for fuel leakage. If fuel leakage is found, do not start or operate unit until leakage is repaired.
- Move at least 3m (10 ft.) from refueling location before starting the engine.

***Mixing Instructions***

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of 2-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

**IMPORTANT**
Spilled fuel is a leading cause of hydrocarbon emissions. Some states may require the use of automatic fuel shut-off containers to reduce fuel spillage.

**After use**

- DO NOT store a unit with fuel in its tank. Leaks can occur. Return unused fuel to an approved fuel storage container.

**Storage -** Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, airtight container. Store in a well-ventilated, unoccupied building, away from sparks and flames.

**IMPORTANT**
Stored fuel ages. Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.

**IMPORTANT**
Stored two-stroke fuel may separate. ALWAYS shake fuel container thoroughly before each use.

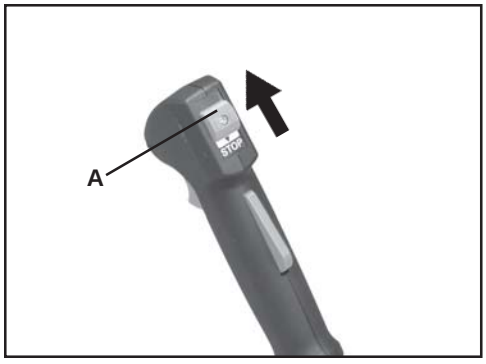
**Fuel to Oil Mix - 50:1 Ratio**

| U.S. | | METRIC | |
|---|---|---|---|
| GAS | OIL | GAS | OIL |
| Gallons | Fl. oz. | Liter | cc. |
| 1 | 2.6 | 4 | 80 |
| 2 | 5.2 | 8 | 160 |
| 5 | 13 | 20 | 400 |

## STARTING COLD ENGINE

**WARNING DANGER**

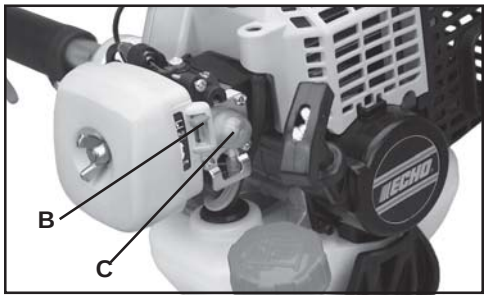
The attachment will operate immediately when the engine starts and could result in loss of control and possible serious injury. Keep movable parts of the attachment off the ground and away from objects that could become entangled or thrown.




1. *Stop Switch*
   Move stop switch button (A) forward, away from the STOP position.

2. *Choke Lever*
   Move choke lever (B) to Cold Start ( ) Position.

3. *Purge Bulb*
   Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 times.




**NOTE**
Lightly place knee on drive shaft to stabilize unit during starting. Do not apply excessive downward force or damage to unit can occur.

4. *Recoil Starter*
   Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Firmly grasp right hand grip and throttle trigger lockout with left hand and fully depress throttle trigger to wide open position. Rapidly pull recoil starter handle/rope (D) until engine fires (or maximum five [5] pulls).

5. *Choke*
   After engine fires (or 5 pulls) , move choke lever back to Run ( ) position. Hold throttle trigger and throttle trigger lockout fully depressed, and pull recoil starter starter handle/rope until engine starts and runs. Release throttle trigger, and allow unit to warm up at idle for several minutes.

**NOTE**
If engine does not start with choke in “Run” position after 5 pulls, repeat instructions 4 and 5.

6. *Throttle Trigger*
   After engine warm-up, gradually depress throttle trigger to increase engine RPM to operating speed.

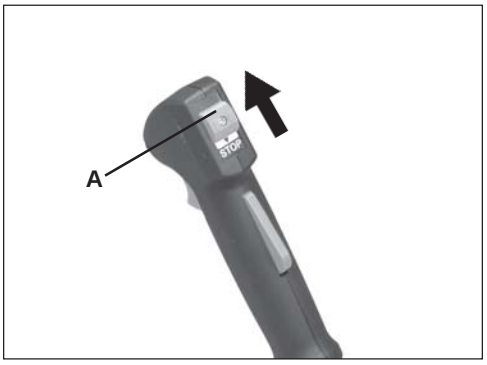
## STARTING WARM ENGINE

The starting procedure is the same as Cold Start except DO NOT close the choke, and do not depress throttle trigger to wide open position.

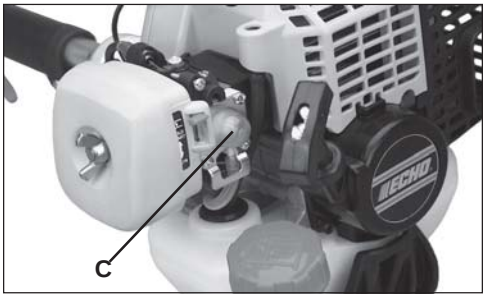
**WARNING DANGER**

The attachment should not move at idle, otherwise serious personal injury may result.

**NOTE**
If attachment moves, readjust carburetor according to "Carburetor Adjustment" instructions in this manual or see your ECHO Dealer.




1. *Stop Switch*
   Move stop switch button (A) away from the STOP position.




2. *Purge Bulb*
   Pump purge bulb (C) until fuel is visible and flows freely in the clear fuel tank return line. Pump bulb an additional 4 or 5 times.

**NOTE**
Lightly place knee on drive shaft to stabilize unit during starting. Do not apply excessive downward force or damage to unit can occur.

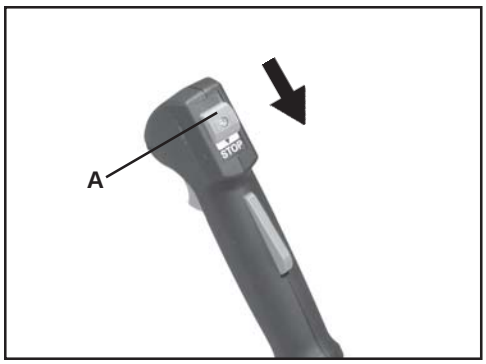
3. *Recoil Starter*
   Lay the unit on a flat area and keep movable attachment parts clear of all obstacles. Rapidly pull recoil starter handle/rope (D) until engine fires.

**NOTE**
If engine does not start after 5 pulls, use Cold Start Procedure.

## STOPPING ENGINE

1. *Throttle*
   Release throttle and allow engine to return to idle before shutting off engine.

2. *Stop Switch*
   Move stop switch button (A) backward to STOP position.




**WARNING ⚠ DANGER**

If engine does not stop when stop switch is moved to STOP position, close choke - COLD START position - to stall engine. Have your ECHO dealer repair stop switch before using trimmer again.

# MAINTENANCE

Your ECHO trimmer is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your trimmer achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance. To help you decide whether you want to DO-IT-YOURSELF or have the ECHO Dealer do it, each maintenance task has been graded. If the task is not listed, see your ECHO Dealer for repairs.

## SKILL LEVELS

**Level 1** = Easy to do. Most required tools come with unit.
**Level 2** = Moderate difficulty. Some specialized tools may be required.
**Level 3** = Experience required. Specialized tools are required. ECHO recommends that the unit be returned to your ECHO dealer for servicing.

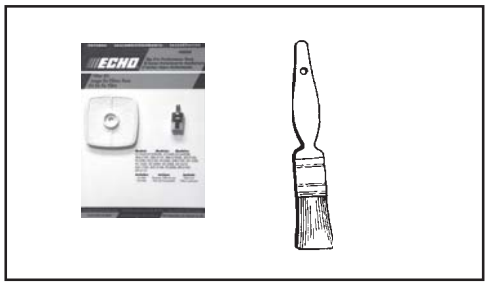
ECHO offers **REPOWER™** Maintenance Kits and Parts to make your maintenance job easier. Below each task heading are listed the various part numbers required for that task. See your ECHO dealer for these parts.

## MAINTENANCE INTERVALS

| COMPONENT/ SYSTEM | MAINTENANCE PROCEDURE | REQ'D SKILL LEVEL | DAILY OR BEFORE USE | EVERY REFUEL | 3 MONTHS OR 90 HOURS | 6 MONTHS OR 270 HOURS | YEARLY 600 HOURS |
|---|---|---|---|---|---|---|---|
| **Recommended Echo Dealer Maintenance Procedures** | | | | | | | |
| Cylinder Exhaust Port | Inspect/Clean/Decarbon | 3 | | | I / C | | |
| **Do-It-Yourself Maintenance Procedures** | | | | | | | |
| Air Filter | Inspect/Clean/Replace | 1 | I / C | | R* | | |
| Choke | Inspect/Clean | 2 | I / C | | | | |
| Fuel Filter | Inspect/Replace | 1 | | | I | | I / R * |
| Fuel System, leaks | Inspect/Replace | 1 | I (3) * | I (3) | I | | |
| Cooling System | Inspect/Clean | 2 | I / C | | | | |
| Muffler Spark Arrestor | Inspect/Replace | 2 | | | I / R * | | |
| Drive Shaft (Flex Cable Models) | Grease | 2 | | | I (1) | | |
| Gear Housing | Grease | 2 | | | I (2) | | |
| Recoil Starter Rope | Inspect/Clean | 1 | I / C * | | | | |
| Spark Plug | Inspect/Clean | 2 | | | I / C | R * | |
| Screws/Nuts/Bolts | Inspect/Tighten/Replace | 1 | I / R * | | | | |

**MAINTENANCE PROCEDURE LETTER CODES: I = INSPECT, R = REPLACE, C = CLEAN**
**IMPORTANT NOTE -** Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.
**MAINTENANCE PROCEDURE NOTES:**
**(1)** Apply ECHO® LUBE™ every 25 hours of use.
**(2)** Apply ECHO® LUBE™ every 50 hours of use.
**(3)** Low evaporative fuel tanks DO NOT require regular maintenance to maintain emission integrity.
* All recommendations to replace are based on the finding of damage or wear during inspection..

## AIR FILTER



**Level 1.**

*Tools required:* Cleaning brush 25 or 50 mm (1 or 2 in.)

*Parts required:* 90008 REPOWER™ AIR & FUEL FILTER KIT.

1. Close choke (Cold Start Position [ ]). This prevents dirt from entering the carburetor throat when the air filter is removed. Brush accumulated dirt from air cleaner area.
2. Remove air filter cover. Brush dirt from inside cover.
3. Remove air filter and lightly brush debris from filter. Replace filter if it is damaged, fuel soaked, very dirty, or the rubber sealing edges are deformed.
4. If filter can be reused, be certain it:
   • Fits tightly in the air filter cavity.
   • Is installed with the original side out.
5. Install air filter cover.

## FUEL FILTER

**Level 1.**

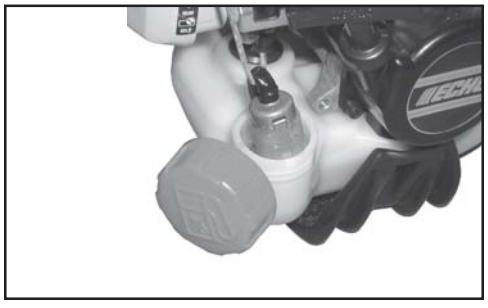
*Tools required:* Fuel line hook, 200-250 mm (8 -10 in.) length of wire with one end bent into a hook. Clean rag, funnel, and an approved fuel container.

*Parts required:* 90008 REPOWER™ AIR & FUEL FILTER KIT.

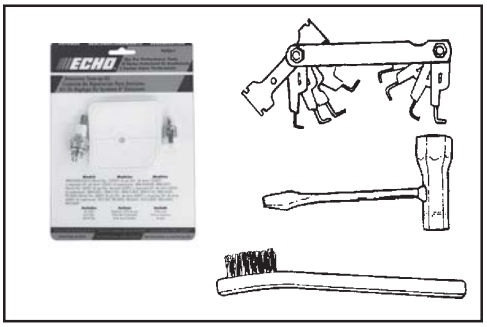
**WARNING DANGER**

Fuel is **VERY** flammable. Use extreme care when mixing, storing or handling.

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.
2. Use the “fuel line hook” to pull the fuel line and filter from the tank.
3. Remove the filter from the line and install the new filter.



## SPARK PLUG

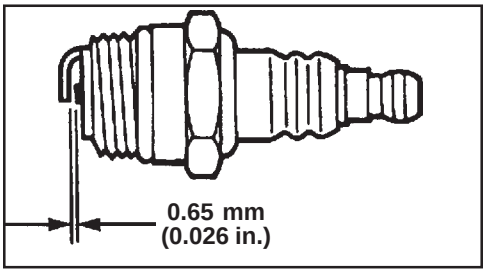



**Level 2.**

*Tools Required:* T-Wrench (combination socket wrench & screwdriver) Feeler gauge, Soft Metal Brush.

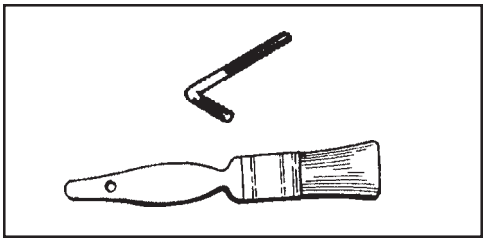
*Parts Required:* REPOWER™ Tune-Up Kit P/N 90074

**IMPORTANT**
Use only NGK BPM-8Y spark plug (BPMR-8Y in Canada) otherwise severe engine damage may occur.




1. Remove spark plug and check for fouling, worn and rounded center electrode.
2. Clean the plug or replace with a new one. DO NOT sand blast to clean. Remaining sand will damage engine.
3. Adjust spark plug gap by bending outer electrode.
4. Tighten spark plug to 150-170 kg/cm (130-150 in. lb.).

## COOLING SYSTEM



**Level 2.**

*Tools required:* 4 mm Hex Wrench, Cleaning Brush 25 or 50 mm (1 or 2 in.)

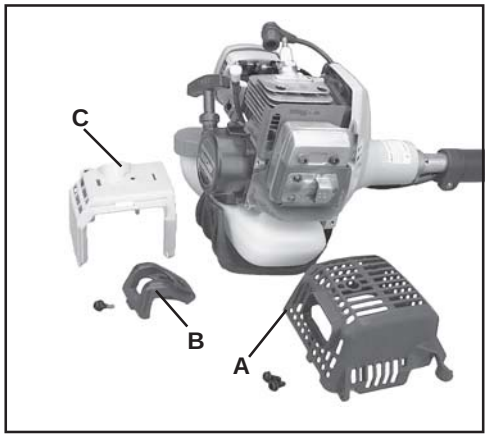
*Parts Required:* None if you are careful.

**IMPORTANT**
To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:
- Air intakes are blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build up on the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.

Removal of cooling passage blockages or cleaning of cooling fins is considered “Normal Maintenance”. Any failure attributed to lack of maintenance is not warranted.

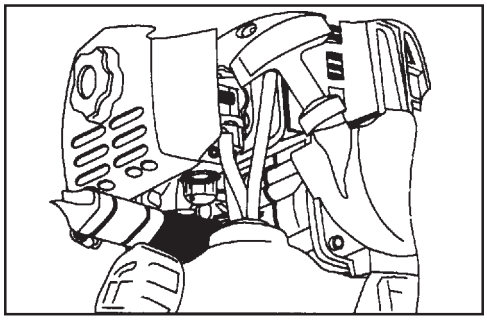
1. Remove spark plug lead.
2. Remove two (2) muffler cover screws and muffler cover (A).
3. Remove screw and arm rest (B).
4. Remove engine cover (C).




**IMPORTANT**
DO NOT use a metal scraper to remove dirt from the cylinder fins.

5. Use brush to remove dirt from the cylinder fins.

6. Remove grass and leaves from the grid between the recoil starter and fuel tank.



7. Assemble components in reverse order.

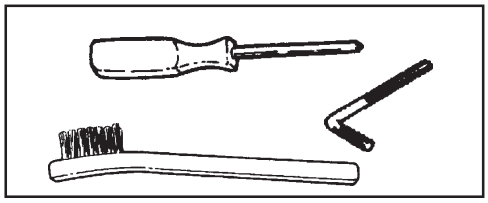
## EXHAUST SYSTEM

### *Spark Arrestor Screen*

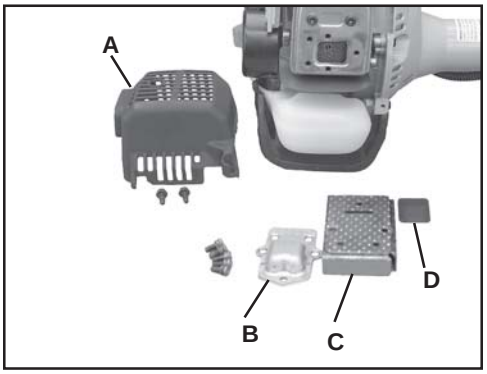
**Level 2.**

*Tools Required:* Cross Head Screwdriver, Soft Metal Brush, 4 mm Hex Wrench

*Parts Required:* Spark Arrestor Screen, Gasket



1. Remove spark plug lead.
2. Remove two (2) muffler cover screws and muffler cover (A).
3. Place piston at Top Dead Center (TDC) to prevent carbon/dirt from entering cylinder.
4. Remove spark arrestor screen cover (B), gasket (C) and screen (D) from muffler body.
5. Clean carbon deposits from muffler components.




**NOTE**
When cleaning carbon deposit, be careful not to damage the catalylic element inside muffler.

6. Replace screen if it is cracked, plugged or has holes burned through.
7. Assemble components in reverse order.

### *Cylinder Exhaust Port*

**Level 3**

**IMPORTANT**
The cylinder exhaust port must be inspected and cleaned of excess carbon every 3 months or 90 hours of operation in order to maintain this engine within the emissions durability period. ECHO strongly recommends that you return your unit to your ECHO dealer for this important maintenance service.

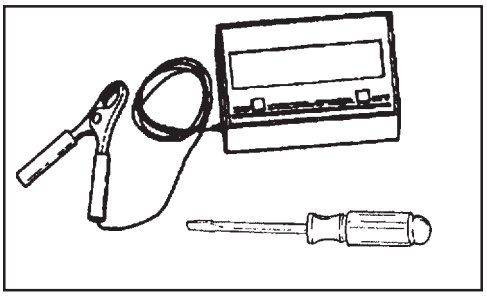
## CARBURETOR ADJUSTMENT

### *Engine Break-In*

New engines must be operated a minimum duration of two tanks of fuel break-in before carburetor adjustments can be made. During the break-in period your engine performance will increase and exhaust emissions will stabilize. Idle speed can be adjusted as required.

### *High Altitude Adjustment*

High altitude adjustment is not required for proper operation of this engine.



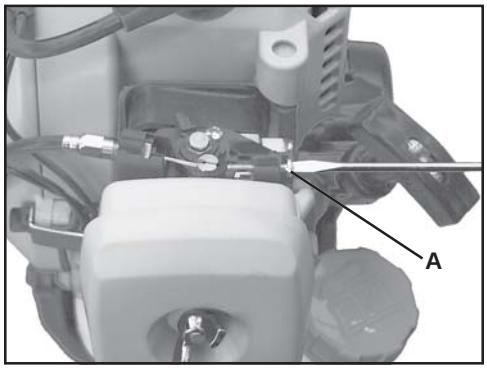
**Level 2.**

*Tools required:* Screwdriver, Tachometer (ECHO P/N 99051130017).

*Parts required:* None.

**NOTE**
Every unit is run at the factory and the carburetor is set in compliance with emission regulations. This carburetor does not have acceleration and high speed adjustment needles.

1. Check idle speed and reset if necessary. If a tachometer is available, idle speed screw (A) should be set to the specifications found on page 31 "Specifications" of this manual. Turn idle screw (A) clockwise to increase idle speed; counter clockwise to decrease idle speed.



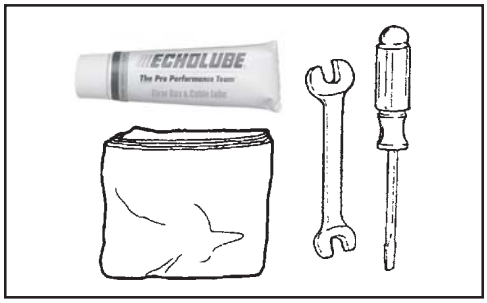

**WARNING ⚠ DANGER**
When carburetor adjustment is completed, the cutting attachment should not turn at idle, otherwise serious personal injury may result.

## LUBRICATION

**Level 1.**

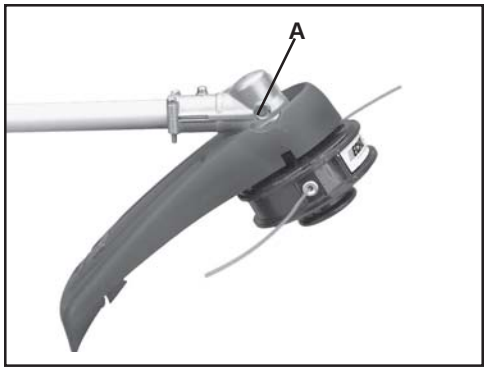
*Tools Required:* 13 mm Open End Wrench, Screwdriver, Clean Rag.

*Parts Required:* ECHO® LUBE™ 8 oz. (P/N 91014) or Lithium Base Grease.



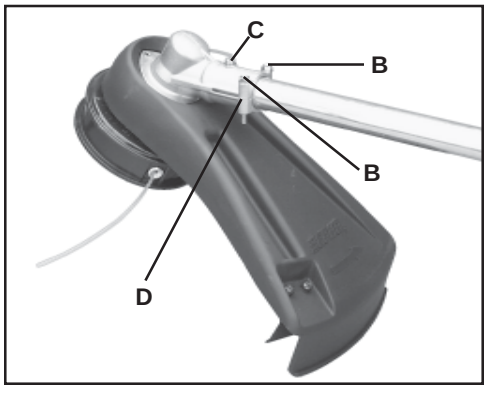

### *Gear Housing*

1. Clean all loose debris from gear box.
2. Remove plug (A) and check level of grease.
3. Fill gear case with grease. Install plug.




### *Drive Shaft*

1. Loosen two (2) screws (B) and remove center locating screw (C). Pull gear box and shield from drive shaft housing.
2. Pull flexible cable from the drive shaft housing, wipe clean and recoat with a thin coating[15 ml (1/2 oz.)] of ECHO® LUBE™ grease.
3. Slide the flexible cable back in the drive housing. DO NOT get dirt on the flex cable.
4. Install the gear housing and shield assembly.




**IMPORTANT**
Flat edge of washers (D) must be against drive shaft.

## NYLON LINE REPLACEMENT

**Level 1.**

*Parts Required:* ECHO 2.4mm (0.095 in.) Nylon Trimmer Line 12m (40 feet [two 20 ft. sections])

### *Echomatic Pro Trimmer Head*

1. Do not push spool in. Hold drum and turn spool clockwise until peg clicks and disappears from hole. Pull spool out of drum.

2. Place ends of two 20 ft. x .095 in. Crossfire™ trimmer lines into holes in spool, one on each side of barrier.

3. Wind both lines tightly and evenly (one on each side of barrier) in the direction of arrow on bottom of spool.

4. Place ends of lines into notches in spool, leaving 6 in. protruding.

5. Feed ends of line outward through eyelets in drum.

6. Turn inner drive so that pegs in drive align with grooves in spool, and push spool into drum

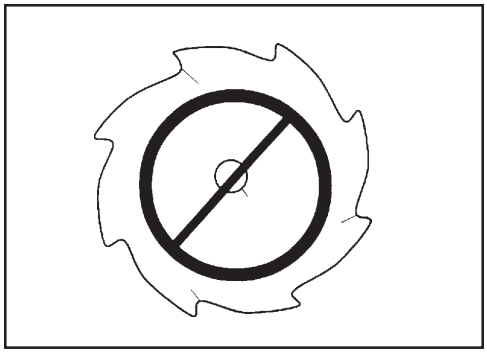
7. Hold spool and drum securely with one hand, and pull each line to disengage from notches.

8. Hold drum and twist spool counter clockwise until peg clicks into hole.

9. Trim lines to 8 in. length.

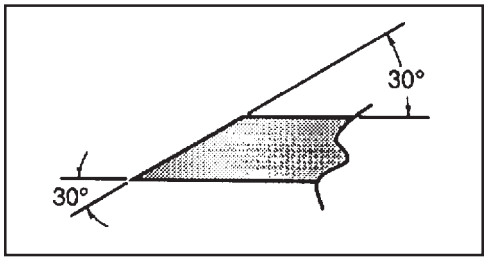
## SHARPENING METAL BLADES

Three styles of metal blades are approved for use on the ECHO Brush Cutter. The 8-tooth blade can be sharpened during normal maintenance. The clearing blade and 80 tooth blade require professional service.



Before sharpening, CLOSELY inspect blade for cracks (look at the bottom of each tooth and the center mounting hole closely), missing teeth and bending. If ANY of these problems are discovered, replace the blade.

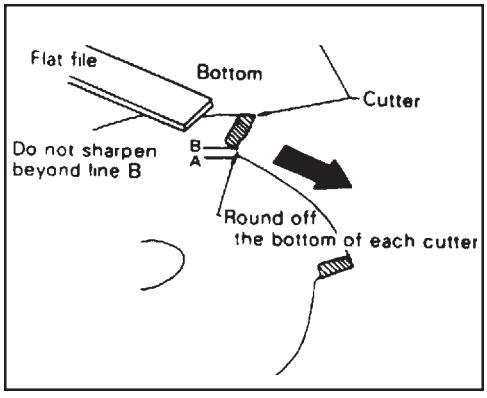
When sharpening a blade, always remove the same amount of materials from each tooth to maintain balance. A blade that is not balanced will cause unsafe handling due to vibration and can result in blade failure.




*Tool required:* Flat file (preferred). Electric grinder if special care is used. Round (rat tail) file for gullet (radius).

1. File each tooth at a 30 degree angle a specific number of times, eg. 4 strokes per tooth. Work your way around the blade until all teeth are sharp.

2. DO NOT file the 'gullet' (radius) of the tooth with the flat file. The radius must remain. A sharp corner will lead to a crack and blade failure.




**IMPORTANT**
If an electric grinder is used, use care not to overheat teeth, do not allow tips/tooth to glow red or turn blue. DO NOT place blade in cooling water. This will change the temper of the blade and could result in blade failure.

3. After sharpening teeth, check each tooth radius for evidence of a square (sharp) corner. Use the round (rat tail) file to renew the radius.

# TROUBLESHOOTING

**ENGINE PROBLEM TROUBLESHOOTING CHART**

| Problem | Check | Status | Cause | Remedy |
|---|---|---|---|---|
| Engine cranks - starts hard/ doesn't start | Fuel at carburetor | No fuel at carburetor | Fuel strainer clogged<br>Fuel line clogged<br>Carburetor | Clean or replace<br>Clean or replace<br>See your Echo dealer |
| | Fuel at cylinder | No fuel at cylinder | Carburetor | See your Echo dealer |
| | | Muffler wet with fuel | Fuel Mixture too rich | Open choke<br>Clean/replace air filter<br>Adjust carburetor<br>See your Echo dealer |
| | Spark at end of plug wire | No spark | Stop switch off<br>Electrical problem<br>Interlock switch | Turn switch to ON<br>See your Echo dealer<br>See your Echo dealer |
| | Spark at plug | No spark | Spark gap incorrect<br>Covered with carbon<br>Fouled with fuel<br>Plug defective | Adjust to .65mm (0.026 in.)<br>Clean or replace<br>Clean or replace<br>Replace plug |
| Engine runs, but dies or does not accelerate properly | Air filter | Air filter dirty | Normal wear | Clean or replace |
| | Fuel filter | Fuel filter dirty | Contaminants/residues in fuel | Replace |
| | Fuel vent | Fuel vent plugged | Contaminants/residues in fuel | Clean or replace |
| | Spark Plug | Plug dirty/worn | Normal wear | Clean and adjust or replace |
| | Carburetor | Improper adjustment | Vibration | Adjust |
| | Cooling System | Excessive dirt/debris | Extended operation in dirty/dusty locations | Clean |
| | Spark Arrestor Screen | Screen cracked, plugged, or perforated | Normal wear | Replace |
| Engine does not crank | N/A | N/A | Internal engine problem | See your Echo dealer |

**WARNING DANGER**

Fuel vapors are **extremely** flammable and may cause fire and/or explosion. **Never** test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.

## STORAGE

**WARNING DANGER**

During operation the muffler or catalytic muffler and surrounding cover become hot. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

### *Long Term Storage (over 30 days)*

Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

1. Store unit in a dry, dust free place, out of the reach of children.

**WARNING DANGER**

Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

2. Place the stop switch in the "STOP" position.
3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. **Drain** the fuel tank **completely** and pull the recoil starter handle several times to remove fuel from the carburetor.
7. Remove the spark plug and pour 7 cc (1/4 oz.) of fresh, clean, two-stroke engine oil into the cylinder through the spark plug hole.

   A. Place a clean cloth over the spark plug hole.

   B. Pull the recoil starter handle 2-3 times to distribute the oil inside the engine.

   C. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.
8. Install the spark plug (do not connect ignition cable).

## SPECIFICATIONS

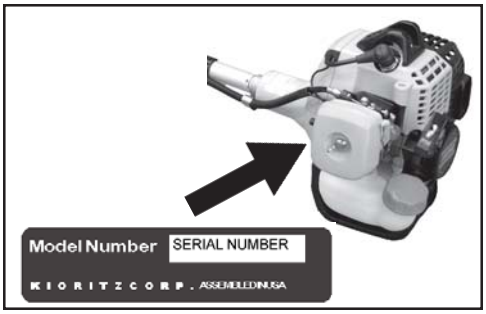
| | |
|---|---|
| **MODEL** | **SRM-230U** |
| Length | 1795 mm (70.7 in.) |
| Width | 700 mm (27.68 in.) |
| Height | 455 mm (17.9 in.) |
| Weight (dry) w/Cutter Head | 5.72 kg (12.6 lb.) |
| Engine Type | Air cooled, two-stroke, single cylinder gasoline engine |
| Bore | 32.2 mm (1.27 in.) |
| Stroke | 28.0 mm (1.10 in.) |
| Displacement | 22.8 cc (1.39 cu. in.) |
| Exhaust | Spark Arrestor Muffler w/catalyst |
| Carburetor | Zama diaphragm model w/purge pump |
| Ignition System | Flywheel magneto, capacitor discharge ignition |
| Spark Plug | NGK BPM-8Y (Gap 0.65 mm (0.026 in.) |
| Fuel | Mixed (Gasoline and Two-stroke Oil) |
| Fuel/Oil Ratio | 50:1 Ratio using ECHO Hi-Performance, two-stroke air cooled engine oil |
| Gasoline | Use 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 10% Ethanol (grain alcohol) or 15% MTBE (methyl tertiary-butyl ether). Gasoline containing methanol (wood alcohol) is **NOT** approved. |
| Oil | ECHO Hi-Performance, two-stroke air cooled engine oil |
| Fuel Tank Capacity | 0.58 lit. (19.6 US fl. oz.) |
| Starter System | Automatic Rewind Starter |
| Clutch | Centrifugal Type |
| Vibration Isolated System | Rubber cushion on engine mount (heavy duty). Rubber grip on front handle. |
| Operating Rod | 25.0 mm aluminum Tube |
| Drive Shaft | 6.35 mm (1/4 in.) flexible shaft |
| Gear Case Ratio | 1:1.4 Reduction |
| Rotating Direction | Counter Clockwise; viewed from top |
| Cutter Head | Nylon line head (2-line) with .095 Crossfire™ Line capacity 6m (20 ft.) |
| Handle* | U-Handle |
| Shoulder Harness | Standard |
| Idle Speed | 2,750 - 3,250 RPM |
| Clutch Engagement Speed | 3,500 - 4,100 RPM |
| Wide Open Throttle Speed (W.O.T.) with Nylon Line Head | 8,500 RPM Min. |
| Wide Open Throttle Speed (W.O.T.) with Blade | 9,000 RPM Min. |

**** Install and use U-Handle when operating any model with blade.***

# SERVICING INFORMATION

## PARTS/SERIAL NUMBER

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number, Type and Serial Number of the unit with you. You can find these numbers on the engine housing. For future reference, write them in the space provided below.




Model No. _____ Type _____SN. _____

## SERVICE

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246)**.** Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

**DEALER?**
**Call**
**1-800-432-ECHO**
**1-800-432-3246**
**or**
**www.echo-usa.com**

## ECHO CONSUMER PRODUCT SUPPORT

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit to help your Consumer Product Support Representative.

**CONSUMER PRODUCT SUPPORT**
**1-800-673-1558**
**8:30 - 4:30 Mon - Fri C.S.T.**

## WARRANTY REGISTRATION

To ensure trouble free warranty coverage it is important that you register your ECHO equipment on-line at www.echo-usa.com. Other registration options are by automated phone at 1-800-432-3246 or by filling out the warranty registration card supplied with your unit. Registering your product confirms your warranty coverage and provides a direct link between you and ECHO if we find it necessary to contact you.

## ADDITIONAL OR REPLACEMENT MANUALS

**Safety Manuals** in English/Spanish or English/French are available, free of charge, from your ECHO dealer or at www.echo-usa.com.

**Operator's and Parts Manuals** are available by:

- Downloading free from www.echo-usa.com
- Purchasing from your Echo Dealer.
- Manuals are available by sending a written request stating the model number and serial number of your Echo unit, part number of the manual, your name and address, and mail to the address below.

**Safety Videos** are available from your Echo dealer. A $5.00 shipping charge will be required for each video.

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**www.echo-usa.com**

12001001/12999999